

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

Listing of the Claims

1. (Canceled)
2. (Previously Presented) The method of claim 19, wherein the piezoelectric film is composed of aluminum nitride or zinc oxide.
3. (Previously Presented) The method of claim 19, wherein the patterned electrode is composed of aluminum or titanium.
4. (Previously Presented) The method of claim 19, wherein the substrate is composed of silicon or gallium arsenide.
5. (Canceled)
6. (Previously Presented) The method of claim 19, wherein the step of planarizing includes employing a chemical mechanical polishing process.
7. (Previously Presented) The method of claim 19, wherein the step of planarizing includes employing a polymer planarization process.
8. (Previously Presented) The method of claim 19, wherein the step of planarizing includes employing a reflow and lift-off process.

9. (Previously Presented) The method of claim 19, wherein the non-conducting layer has a low dielectric constant.

10. (Previously Presented) The method of claim 19, wherein the non-conducting layer is SiO₂.

11-18 (Canceled)

19. (Currently Amended) A method of forming a thin film acoustic device, the device including a patterned electrode with an edge and a height, the patterned electrode formed on a substrate ~~and a piezoelectric film to be formed on the patterned electrode~~, the method comprising the steps of:

depositing a non-conducting layer on the patterned electrode and substrate; and

planarizing the non-conducting layer so that the non-conducting layer has a height that is equal to a height of the patterned electrode; and

forming a piezoelectric film on the patterned electrode and planarized non-conducting layer.

20. (Canceled)

21. (Previously Presented) The method of claim 19, wherein the piezoelectric film serves as a support membrane for the device.

22. (Previously Presented) A method of forming a thin film acoustic device, comprising:

forming an electrode on a substrate;
patterning the electrode;

depositing a non-conducting layer on the patterned electrode and substrate;

planarizing the non-conducting layer so that the non-conducting layer and patterned electrode form a continuous layer having a level surface; and
forming a piezoelectric layer on the level surface of the continuous layer.

23. (Previously Presented) The method of claim 22, wherein the level surface provided by the planarized non-conducting layer and patterned electrode improves the mechanical integrity of the piezoelectric layer by eliminating the edge of the patterned electrode.

24. (Currently Amended) A method of improving the mechanical integrity of a piezoelectric film layer during fabrication of a thin film acoustic device, the device including a patterned electrode with an edge and a height, the patterned electrode formed on a substrate and the piezoelectric film layer to be formed on the patterned electrode, the method comprising the steps of:

depositing a non-conducting layer on the patterned electrode and substrate; and

planarizing the non-conducting layer so that the non-conducting layer and patterned electrode form a continuous layer having a level surface;
~~improving the mechanical integrity of the piezoelectric layer by eliminating the edge of the patterned electrode; and~~

forming a piezoelectric layer on the level surface of the patterned electrode.